

**ABSTRACT**

The present invention provides an ultra linear, high speed operational amplifier output stage (100). The advantages of the operational amplifier output stage disclosed is significantly higher linearity for the same supply current, or 10 equivalent linearity using a lower supply current. The present invention achieves this using an pre-driver sub-stage (122) having a plurality of translinear loops so that there is no net signal loss to the final sub-stage (123). The output of the disclosed operational amplifier output stage takes the form;  $\delta I_o \approx \beta_n * \beta_p * \delta I_{in}$ . When used with a localized feedback circuitry, bandwidth is extended.